8-2017

Exploration of Tele Mental Health Program Integration with Application into Psychiatry Services at Ivinson Memorial Hospital Behavioral Health Unit

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EXPLORATION OF TELE MENTAL HEALTH PROGRAM INTEGRATION WITH APPLICATION INTO PSYCHIATRY SERVICES AT IVINSON MEMORIAL HOSPITAL BEHAVIORAL HEALTH UNIT

A Capstone Research Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

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Nursing Practice

August 2017

This Capstone Project by: Beth J. Romsa

Entitled: *Exploration of Tele Mental Health Program Integration with Application into Psychiatry Services at Ivinson Memorial Hospital Behavioral Health Unit*

has been approved as meeting the requirement for the Degree of Doctor of Nursing Practice in College of Natural and Health Sciences in School of Nursing, Program of Nursing Practice

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EXECUTIVE SUMMARY

Romsa, Beth J. *Exploration of Tele Mental Health Program Integration with Application into Psychiatry Services at Ivinson Memorial Hospital Behavioral Health Unit*. Unpublished Doctor of Nursing Practice capstone project, University of Northern Colorado, 2017

Telehealth has initiated a transformation of the healthcare system that has been heralded by many to address the growing concern of disparity in mental healthcare (Grubaugh, Cain, Elhai, Patrick, & Frueh, 2008). Rural areas currently benefit significantly from availability and use of telemedicine services. The purpose of this capstone project was to evaluate the evidence on tele mental health guidelines; assess the hospital's existing mental health services including processes, structure, and outcomes; and develop a clinical guideline that incorporates best evidence and outcome measurement procedures to facilitate expansion of mental health services. The capstone project consisted of two phases. Phase one involved the evaluation of evidence (empirical and expert consensus) and gathering of information investigating what should be included in tele mental health guidelines should expansion of services be instituted. The second phase included the development of a clinical practice guideline to guide tele mental health expansion of services based on best evidence available (through literature search and from subject matter experts). The logic model offered by the W.K. Kellogg Foundation (2004) was used to frame the project as this model brings together planning, evaluation, and program action. This model links organizational program objectives with

effectively planning, implementing, and analyzing a conscious process. Through evaluation of quality clinical guidelines available for tele mental health clinicians, the capstone project provided a systematic review of evidence and protocols supporting best telehealth program delivery systems and guidelines.

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CHAPTER I

PROBLEM STATEMENT

Introduction

Global crises of healthcare professional shortages have created an imbalance between the availability of human resources to meet minimal needs of populations and the burden of disease. The demands on health professionals within a growing healthcare system has promoted increased efforts at establishing improved access to care to help meet the demands of an expanding healthcare market including specialty areas. To increase access to medical specialty areas including psychiatry without increasing healthcare costs, establishing a telehealth network serves to enhance healthcare delivery to medically underserved populations using telemedicine technologies. Telehealth has initiated a transformation of the healthcare system that has been heralded by many as a means to address the growing concern of disparity in mental healthcare (Grubaugh, Cain, Elhai, Patrick, & Frueh, 2008). The purpose of this capstone project was to evaluate the evidence on tele mental health (TMH) interventions for psychiatric illness; assess the hospital's existing mental health services including current processes, structure, and outcomes; and develop a clinical guideline that incorporates best evidence and outcome measurement procedures to facilitate expansion of mental health services with best quality and consistency in mental healthcare delivery. The capstone project consisted of two phases. Phase one involved the evaluation of evidence (empirical and expert

consensus) and gathering of information investigating what should be included in TMH guidelines should expansion of services be instituted. The second phase included the development of a clinical practice guideline to guide TMH expansion of services, inpatient and outpatient, based on the best evidence available (through literature search and from subject matter experts). This capstone project sought to answer the following research question:

Q1 For mental health providers of an inpatient behavioral health unit at a not-for-profit community hospital in a rural area of a western state (*P*), how would development of tele mental health guidelines promote integration of a tele mental health program for psychiatry services (*I*) compared to in person mental health services (*C*) affect expansion of mental health services with use of telehealth guidelines(*O*) following initiation of tele psychiatry services?

The exploration of TMH psychiatry service program initiation to increase provider access and collaborative availability was investigated for a 10-bed behavioral health unit on an inpatient psychiatric unit. Due to the rapid evolution of telehealth research, ethics, and legality, education and training are considered extremely valuable and necessary to provide an alternative to help countless in need who go without care (Hogenbirk, Montgomery, Boydell, Pong, & Cudney, 2006).

This expansion of services includes physician, nurses, and other healthcare professionals practicing to provide ongoing medical care to these areas to improve public health in rural communities by providing state-of-the-art telemedicine services to rural communities. Other venues for promotion of telemedicine include increasing and promoting healthcare professionals to participate in educational trainings within the telemedicine network and collaboration with healthcare systems with expertise in the field of telemedicine. Licensing bodies face complex regulatory challenges as well as

patient safety concerns in adapting historical standards and regulations for the provision of health care to new delivery models involving telemedicine technologies. Uniformity of care between providers offering telehealth is imperative so consistent standards can be maintained. Adherence to recognized ethical codes that govern the medical profession is necessary to protect patient information. Policy analysis and guideline development provide an opportunity to critically appraise the context in which policies and guidelines exist. The application of telemedicine technology provides the expansion of medical and mental health services by facilitating care between healthcare providers and patients including scheduling appointments, providing healthcare information, monitoring chronic medical and mental health conditions, obtaining laboratory results, providing medical advice and psychotherapy, and prescribing medications. For the purpose of this capstone project, telehealth was considered providing care between a provider in one physical location and a patient in another physical location. Tele mental health care involves secure video conferencing technology to provide healthcare delivery by replicating the interaction of a traditional in-person encounter. Lack of uniformity begins with various terms for use including telehealth, telemedicine (sometimes misunderstood by patients), educators, legislators, policymakers, government agencies, and payers. Tele mental health refers to specialty behavioral health care services delivered via technology. Several states have enacted specific informed consent requirements for telehealth services. However, there needs to be emphasis on consistent state laws and board policies with regard to providing TMH services that offer guidance for practitioners.

Telemedicine offers a unique opportunity for the delivery of healthcare to rural communities. For this opportunity to be promoted, telemedicine services need to be

planned carefully with attention to acceptance by clients and providers, economic viability, and effective administration. To be sustainable, services for rural populations must be supported by a well-defined and resourced infrastructure. Managed care, considered as an approach to the effective delivery of appropriate services, is indeed the right tool for rural communities. Cost savings are an important issue for healthcare managers and rural telemedicine services should be considered in a broader economic perspective, taking into account both costs and benefits from various perspectives and considering long-term outcomes.

Preparing for the telehealth world of health care involves determining the populations to whom these services will be provided and who will benefit from them. Determining how healthcare providers establishing telehealth care can provide effective delivery of services with use of technology is essential. Populations that can benefit from the use of telehealth applications continue to grow with multiple specialty clinics offering telemedicine options including mental health, pediatrics, dermatology, cardiology, and primary care. Telehealth services are being extended to also include clinical video telehealth to home options where patients are able to complete scheduled follow-up appointments using their home computers. Telehealth services continue to grow nationally as well as globally; the use of telemedicine is expanding otherwise unimaginable medical services to rural areas with telehealth connectivity and access to providers and healthcare services.

Existing gaps in data for addressing the expansion of TMH services include policy issues as well as clinical, technical, and perceptual issues that have impeded a greater expansion in TMH services. All consumers of telehealth including patients and

clinicians can benefit from improvements in existing telehealth procedures. To evaluate the feasibility of telehealth options, the infrastructure of the organization, thorough investigation of space and program personnel, equipment purchasing costs, and investment into the option for telemedicine consultation need to be established.

Policy analysis encourages deliberate critical thinking about the causes of problems; identifies the ways a government, institution, or other groups could respond; evaluates alternatives; and determines the most desirable policy choice (Mason, Gardner, Outlaw, & O'Grady, 2016). Licensing bodies, with their obligation and duty to protect the public, must ensure their standards are maintained for the safety of the patient including (a) determining if and when a patient-physician relationship is established, (b) assuring privacy of patient data and health information, (c) guaranteeing proper medical evaluation and treatment of the patient, and (d) limiting the prescribing and dispensing of certain medications (Kmucha, 2015). There must be a collaborative effort between patient and provider to maintain optimal health and well-being of the patient with shared responsibilities of both parties. Healthcare advice should only proceed using telemedicine under the following guidelines: (a) fully verifying and authenticating the location of and, to the extent possible, identifying the requesting patient; (b) validating provider identify and credentials, and (c) obtaining appropriate informed consent after giving appropriate disclosures regarding delivery models and treatment methods with limitations (Kmucha, 2015).

Significance of the Problem

Per the State of Wyoming Department of Workforce Services, Wyoming currently has a shortage of several healthcare occupations critical to health care

(Wyoming Nurse, 2012). This includes many specialty services such as mental health where rural areas face a shortage of providers and specialty services have difficulty establishing clinics and recruiting providers. Due to rural locations where patients are located, they might not be able to travel to a clinic or hospital that would provide them with necessary care. By examining new ways to provide necessary care to small critical areas in need, a substantial growth of services could be established with telehealth accessibility.

The impact on the economy from mental illness is multifactorial including cost of care, employment and income loss, social support services and expenses, medications, as well as indirect costs due to chronic disability (Insel, 2011). In 2006, the Agency for Healthcare Research and Quality estimated costs in the United States for mental illness care were $57.5 billion (Insel, 2011). This cost is equivalent to what was spent on healthcare costs for cancer. As reported by The World Health Organization (cited in Insel, 2011), "Mental illnesses are the leading cause of disability adjusted life years worldwide" (para. 3). The global cost for mental illness reached almost $2.5 trillion in 2010 and is expected to reach $6 trillion by 2030 (Insel, 2011). "Mental illness costs are the largest single source; larger than cardiovascular disease, chronic respiratory disease, cancer or diabetes" (Insel, 2011, para. 4).

CHAPTER II

PROJECT DESCRIPTION

Literature Review

An extensive literature search was conducted utilizing key words including telehealth, telemedicine, evidence-based practice, quality assessment tools, and TMH, guidelines, clinical intervention assessment tools, and telehealth management. Multiple databases were included in the search including Cochrane Database of Systematic Reviews, CINAHL, PubMed, Psych Info, CDC, Medline, and Google Scholar. All of the reports were published in English. The literature search focused on studies relevant to telehealth program applications and process improvement. Four systematic reviews, one meta-analysis, one case analysis, one principle-based analysis, and one economic analysis were utilized for purposes of this project.

Systematic Reviews and Meta-Analyses

The aim of a systematic review is to draw conclusions about the gathered data through a process that leads to identifying credible evidence that might influence healthcare decisions. "A systematic review is a summary of evidence on a particular topic, typically conducted by an expert or expert panel that uses a rigorous process for identifying, appraising and synthesizing studies to answer a specific clinical question," (Melnyk & Fineout-Overholt, 2015, p. 12.) Systematic reviews in which quantitative methods summarize results from multiple studies are called meta-analyses. The meta-

analyses generate an overall summary statistic representative of the effects of the specific intervention across multiple studies (Melnyk & Fineout-Overholt, 2015) to yield the strongest level of evidence on which practice decisions might be based. A critical appraisal of systematic reviews was conducted and according to the Cochrane Collaboration, which facilitates production of healthcare systematic reviews, key characteristics of a systemic review include a clearly stated set of objectives with predefined eligibility criteria for studies; an explicit, reproducible methodology; a systematic search attempting to identify all studies meeting eligibility criteria; a standardized assessment of the validity of the findings; and a systematic presentation of the synthesis of included studies (Melnyk & Fineout-Overholt, 2015). Four systematic reviews, one meta-analysis, one case analysis, one principle-based analysis, and one secondary analysis were evaluated to critique the effectiveness of telemedicine versus face-to-face patient care, tele-education effectiveness, and analysis of the concept of telecare.

Currell, Urquhart, Wainwright and Lewis (2010) conducted a systematic review with the objective of assessing the effects of telemedicine as an alternative to face-to-face patient care. Their search strategy included multiple resources including the Effective Practice and Organizational specialized register, The Cochrane Library, MEDLINE (1966-1999), EMBASE (to 1996), DHSS-Data, SSCI (1981-1997), SCI (1981-1997), Assia, OCLC, Sigle (to 1999), Inspec (to August 1996), Healthstar (1983-1996), and CINAHL (to August 1999). The following were also searched: Journal of Telemedicine and Telecare (1996-1999), Telemedicine Journal (1995-1999), reference lists of articles, conference proceedings, and experts in countries identified as having an interest in

telemedicine. Currell et al. independently assessed trial quality and extracted data. The fundamental relationships between patients and healthcare professionals were reviewed with the use of portable, affordable systems as well as the development of international telecommunications. All relevant studies were reviewed by two reviewers; quality was assessed and of the seven studies included for review, five were concerned with the use of telecommunications to support patient care. The main results came from seven trials including more than 800 participants. One trial was concerned with telemedicine specific to the emergency department, one involved video-consultations between primary health and hospital outpatient department, and the remaining involved the provision of home care or patient self-monitoring and the use of telemedicine with chronic disease conditions. The studies were noted to be well conducted although patient numbers were small in all but one.

None of the aforementioned studies showed any detrimental effects from the telemedicine interventions but neither did they show unequivocal benefits. The review did not include any formal economic analysis of telemedicine. All the technological aspects of the telemedicine interventions appeared to have been reliable as well as being well accepted by patients receiving care via telemedicine. The feasibility of telehealth applications was established as feasible although there was little evidence of clinical benefits. The studies reviewed provided variable and inconclusive results for psychological measures, cost effectiveness, or clinical benefits following telehealth intervention. The review also emphasized the necessity for further research and for randomized trials of telemedicine applications be conducted as use increases and investments in technologies are made.

A systematic review was conducted by Chipps, Brysiewicz and Mars (2012) who critiqued the effectiveness of video-conference-based education for medical professionals and summarized findings to apply to South Africa and other countries around the world. Research citations from 1990 to 2011 from the United States, the United Kingdom, and Brazil and from multiple sources were searched. Review methods included searching, sifting, abstracting, and assessing the quality of relevant studies (Chipps et al., 2012). Sample, design, intervention, threats to validity, and outcomes were evaluated. Five studies were chosen for review. Videoconference and face-to-face education was found at least to be equivalent in one study, which reported an increase in knowledge and knowledge integration with use of video-conferenced-based tele education. Threats to validity included most of the available evidence from studies of moderate quality, possibly introducing biases leading to over- and under-estimates of intervention effectiveness. Their relevance for the South African context must be weighed due to lack of resources in countries such as South Africa although attempts to improve telehealth practices for rural countries were recommended. Conclusions drawn from the review included the use of videoconferencing for medical education should be encouraged along with guidelines (Chipps et al., 2012).

A third systematic review conducted by Belisario, Jamsek, Huckvale, O'Donoghue, and Morrison (2015) assessed the impact smartphone and tablet apps have on quality of survey questionnaire responses compared to other survey delivery methods. This study was pertinent as many veterans complete Veterans Affairs associated tasks via mobile apps and pre- and post-intervention quality questionnaires could be completed via a mobile app. Multiple databases were searched for data including parallel randomized

controlled trials, crossover trials, and paired repeated measures studies comparing electronic self-administered survey responses compared to other deliveries. Through initial systematic mapping on the studies, controlled and uncontrolled settings were identified for survey completion including which differed in location completed, frequency, intensity of sampling protocols, and type of technology. The main results from 14 studies with 2,275 participants indicated no variation in responses in controlled versus uncontrolled settings (Belisario et al., 2015). One study determined app use was faster than written responses. The results stated apps might affect data equivalence as long as clinical application of the questionnaire remained unchanged. Limitations included no data on accuracy or response rates. There was not enough evidence to assess app impact on adherence to protocols. The app delivery mode should not be assumed to be an effective delivery mode for surveys (Belisario et al., 2015).

A fourth systematic review conducted by Benavides-Vaello, Strode, and Sheeran (2013) included a review of literature spanning 1996 to 2012 to identify relevant studies exploring use of telehealth and substance abuse. The year 1996 was chosen as a starting point as legislation was emerging regarding telehealth reimbursement. The theoretical framework was inductive in nature. Collection criteria for literature included emphasis on telehealth and tele psychiatry provided for substance abuse disorders. Findings from the 240 articles identified 38 meeting selection criteria regarding advantages of telehealth applications in rural practice although barriers existed to implementation (Benavides-Vaello et al., 2013). Around 1998, telehealth services began expanding including psychotherapy, admission intakes, case management, evaluations, hearings, and clinical supervision. Literature indicated therapies for mental health and substance abuse offered

via telehealth were acceptable across cultural lines; the modalities had proven effective in terms of client and provider acceptance, reliability of assessment data, and feasibility. Geographic isolation, lack of funding, and low socioeconomic status make mental health services challenging in rural areas. According to the review, telehealth has enhanced clinical services and educational opportunities in rural areas and serves as an effective mode to increase access to professional services (Venavides-Vaello et al., 2013).

A meta-analysis performed by Sloan, Gallagher, Feinstein, Lee, and Pruneau (2011) involved a literature search of databases seeking to find the degree to which telehealth treatments reduced posttraumatic stress disorder (PTSD)-related symptoms. The authors independently screened 2,466 possible sources to determine eligibility for inclusion. Thirteen studies were identified for inclusion and coded for relevant variables. Results indicated treatments via telehealth were associated with significant pre- to post-reduction in PTSD symptoms. No significant findings were obtained for telehealth intervention relative to a supportive counseling telehealth comparison condition (Sloan et al., 2011). Compared to face-to-face interventions, telehealth interventions produced equal depression outcome effects. Together, the findings supported the use of telehealth treatments for individuals with PTSD symptoms. Results from pre- to post-telehealth treatment did show significant symptom reduction (Sloan et al., 2011). Compared to face-to-face intervention and critical comparison of confidence intervals, there were insufficient data to determine whether or not the telehealth intervention was inferior, superior, or equal. Telehealth interventions were deemed to be efficacious in reducing PTSD symptoms although continued work in the telehealth modalities needs to be examined per the meta-analysis (Sloan et al., 2011).

Norman (2006) conducted a review of all articles published between 1998 and 2005 using multiple sources to search databases and cross-reference results with relevant articles including telemedicine and information technology. Major variables included efficacy, cost effectiveness, and satisfaction with psychiatric services delivered via videoconferencing. A total of 178 articles were identified; based on a review of the abstracts, 72 were identified as being specific to the desired subject. Evidence from the review suggested patients and practitioners considered tele psychiatry an acceptable mode of consultation provided they had confidence in the technology used (Norman, 2006). Remote communities would be enabled to gain access to central psychiatry services as well as improve communication between primary and secondary care. Certain populations could benefit from treatment delivered via tele psychiatry although evidence indicated considerations included legal and ethical aspects of tele psychiatry. The development of guidelines and standards, cost effectiveness, and quality of equipment could pose barriers to care (Norman, 2006).

Whitten and Rowe-Adjibogoun (2003) performed a case analysis of a multidimensional telemedicine project in Michigan with discussion of five universal challenges the telehealth project evaluators needed to address in order to achieve utilization levels to allow for reliable research conclusions about telehealth. Four phases of the project were included in the case analysis. The first phase of the project set up a direct connection between two clinics in a specified service area approximately 90 miles apart. The telemedicine connection was through a poly com videoconferencing unit. The second phase of the project connected family practitioners to the county jail to provide otherwise unavailable behavioral health services. The third phase of the project was

aimed at managing a crisis home with use of videophone installation that involved equipment installation, protocol development, and training. The fourth and final phase of the project attempted to provide behavioral health services to patients with telehealth equipment being placed in their homes. Goals of the project were to find cost effective ways to minimize access to behavioral health services and increase the quality of care by providing telehealth series (Whitten & Rowe-Adjibogoun, 2003). Analysis of the development and implementation efforts across the four phases pointed to five themes that served to predict the success of activities within each of the phases. Providers were designated as the gatekeepers for patients who were reluctant to adopt new information. Alignment of telehealth with overall organizational goals and avoiding tendencies to discount important technological aspects of care provided more insurance for all providers administering care through telehealth services (Whitten & Rowe-Adjibogoun, 2003).

Luxton (2013) performed an economic analysis of TMH services in order to decrease cost of delivery and improve access to care. Allocation of resources was crucial and the economical evaluation summarized specifics regarding telehealth guidelines. Several studies he reviewed lacked general methodology and lacked appropriate outcomes measured; there were overall problems with clarity as well. The timing of the economic analysis included effectiveness trials that contained data from 2002-2010. Major variables included synchronous videoconferencing, remote monitoring, and telephone follow up via web based systems. Diverse types of healthcare disciplines including psychiatry, radiology, intensive care, cardiology, and neurosurgery were reviewed and interpreted (Luxton, 2013). The evaluation of economics related many

things affecting costs including direct and indirect costs, technology advancements necessary to sustain programs, and initial costs. Conclusions demonstrated the investment potential must coincide with technology cost, staffing services, workflow, and each particular cost associated with telehealth needing to be evaluated routinely (Luxton, 2013).

The literature review demonstrated the growth in telehealth and technological innovations that have become effective in a variety of health fields, specifically mental health for purposes of this project, and the effectiveness being comparable to face-to-face interactions. With location as a factor for having mental health services available in many rural locations, TMH use and applications have increased access to effective mental health services and have been largely integrated throughout many healthcare systems. The literature review suggested the importance of adequate equipment, training, and guidelines. Prior to initiation, start-up costs of a TMH program must be evaluated and considered when determining the adequacy of funding. Continued quality assessment and program planning are essential for maintaining programs. Longitudinal studies including data over a significant length of time would provide more information as to necessary trends and help system expansion when feasible. Barriers to care include cost, perception of client and provider, equipment quality, and leadership and staff support of the mission of TMH programs within facilities or organizations.

Gaps in the literature from analysis of the findings included breakdown of costs associated with initiation of TMH programs and established telehealth guidelines. Financial considerations were discussed in several of the articles without specifics regarding multiple necessary equipment pieces needed prior to TMH services being made

available. Patient satisfaction results were not specific nor were recommendations based on patient preferences. Investigation of equipment failures and process improvements were not readily available. Objectives of global TMH services need further investigation as well as other major variables when establishing TMH in locations isolated by distance and ethnical boundaries. Comparison of telehealth interactions versus face-to-face and benefits from TMH applications need further review. The legal aspects of completing telehealth across states lines and surrounding laws with providing TMH warrant consideration and offer potential for researchers to assist clinicians in preventing licensure complications. Telehealth guidelines, training requirements, and emergency protocol development should also be explored in further research as gaps existed with attempts to locate quality research on these important topics.

CHAPTER III

PROJECT DESIGN

This capstone project used a non-experimental field study approach, which does not have direct or indirect involvement with patients. The goal of the project was the development of a clinical practice guideline blending expert opinion, theory, and empirical literature evidence. The Delphi method was utilized to query a panel of experts. The Delphi method is an iterative process used to collect and distill the judgments of experts using a series of questionnaires interspersed with feedback (Skulmoski, Hartman, & Krahn, 2007). The questionnaires were designed to focus on problems, gaps in mental health care, opportunities, and solutions. The Delphi method originated in the American business community and has been widely accepted in many sectors including health care, defense, business, education, information technology, and engineering (Skulmoski et al., 2007). Use of the Delphi method can structure a group communication process to facilitate group problem solving, to structure models, and might also be applied to program planning. The Delphi method is used to investigate what does not yet exist and is a mature and adaptable research method used in many research arenas by researchers across the globe (Skulmoski et al., 2007).

Data collection was completed primarily in phase one of the project. The data collection process involved the following key elements: (a) a review of the empirical literature on TMH guidelines, (b) the use of the Delphi method to query a panel of

experts on the subject of TMH guidelines and interventions guiding clinicians in best evidence-based practices, and (c) an assessment of the structure, process, and outcomes of existing mental health services with promotion of expansion of mental health services via outpatient and inpatient telehealth interventions.

Expert consensus with use of the Delphi method followed the systematic steps and focused on building consensus regarding TMH guidelines. Participation was voluntary and return of the Delphi questionnaires by each participant was considered as consent to participate (see Appendix A). Each person was sent an electronic letter explaining the survey purpose as well as first round questions (see Appendix B). A reminder was sent in five days for those participants who had not yet responded. Data related to telehealth guidelines were collected and evaluated. The project was quality improvement oriented and did not involve direct or indirect communication with patients. A spreadsheet listed each question in table format.

Phase two of the project involved the development of a TMH practice guideline that blended information obtained from phase one of the project. The guideline was based upon best evidence obtained through assessment of the existing program, from expert opinions, and through empirical literature. Qualitative information provided by each of the survey participants was summarized and grouped into themes. The data were analyzed quantitatively using descriptive and parametric or nonparametric statistical methods and placed into the results.

The target population that would benefit from TMH guideline development and possible expansion included mental health patients discharged from the inpatient behavioral health unit at Ivinson Memorial Hospital (IMH). The current practice upon

discharge of these patients following acute inpatient psychiatric admission involves locating an outpatient facility that would be appropriate for follow up with substance abuse treatment, medication management, and psychotherapy. Challenges with outpatient follow up included limited availability of outpatient facilities for new referrals, wait lists, lack of providers, as well as businesses being closed and unavailable for scheduling on weekends. These delays could lead to patients not following up with outpatient services, noncompliance, an increased risk of relapse, and/or worsening of symptoms. Assessment and follow up for patients post hospitalization needs to be enhanced. Advanced practice nurses (APNs) are in a key role to address substance use and identify at-risk patients by incorporating assessment tools into routine medical histories and assessments. Advanced practice nurses have implemented screening tools, intervened at various levels of prevention, examined practice regarding skills needed for diagnosis, and examined laboratory findings and physical observations to detect problems. According to Glick and Applbaum (2010), prevention of illness has become a central theme in debates over effective strategies to reduce healthcare costs. To avert illness, it is the responsibility of individuals to make behavioral and lifestyle choices including whether to follow recommendations by providers. The authors continued by stating sometimes responsibility for prevention falls to society whose government is expected to create laws, encourage behaviors, and/or devise systems for limiting the incidence, communicability, or severity of illness and its costs. Severe mental illness poses a special challenge to the paradigm of rational prevention because its origins are usually idiopathic and strategies for management are difficult because these patients are

compromised at taking rational action toward preventing a relapse (Glick & Applbaum, 2010).

One in five hospitalizations in the United States includes a mental health disorder either as a primary or secondary diagnosis (Sharfstein & Dickerson, 2009); however, only 11.9% of Americans received outpatient mental health treatment services (Zuvekas & Meyerhoefer, 2009). Shortages of mental health providers are a big concern with two-thirds of primary care providers reporting being unable to obtain high-quality outpatient mental health services for their patients and increased demand for mental health services has exacerbated existing problems (Smaldone & Cullen-Drill, 2010). Linking this vital service of providing outpatient mental health services including TMH services would have a tremendous impact on improving continuity of care for those discharged from IMH following acute inpatient hospitalization. Evidence-based substance abuse and mental health outpatient care could improve outcomes and reduce treatment costs for patients who lack appropriate outpatient follow-up care. Those patients are more likely to return to previous substance use upon discharge without appropriate outpatient services and follow up. Development of outpatient mental health programs is an investment for any organization. These programs help increase future productivity by diverting current output to infrastructure improvement rather than immediate consumption due to long-term perspectives and improved health outcomes. To be successful in disrupting the cycle of repeated admission, evidence-based treatments including outpatient programs could assist in reducing the incidence of re-admissions.

Providing outpatient TMH services for clients is a program that could generate revenue. According to Penner (2013), cost finding is important because cost estimates in

budgets and financial reports are more accurate when costs are identified using systematic methods so charges cover the costs of services, which provide better information in cost management. As stated by Laskaris and Regan (2013), changes in economic and legislative environments are complicating the capital landscape, making it imperative to generate break-even calculations and that providers make this routine. They also emphasized population demographics are a prerequisite in determining how to reduce costs of care while managing the health of populations. Organizations are seeking a better understanding of the demographics, health status, and projected health utilization of the populations in their service areas. Penner (2013) stated cost break analysis (CBA) is a technique used to help guide decision-making by determining the benefits achieved by a specific intervention. Cost break analysis helps identify the optimal size for projects or programs and can provide a framework for program evaluation. With consideration of TMH program initiation, the benefit of a CBA would help stakeholders determine the feasibility of a proposition. With the establishment of an outpatient tele psychiatric clinic, mental health patients discharged from acute inpatient hospitalizations would have improved outpatient care for medication management, psychotherapy, and outpatient services, and improve compliance and effectiveness of outpatient treatment as evidenced by decreases in relapse and repeated admissions. Costs need to be established including direct costs and indirect costs of TMH program initiation. For purposes of this capstone project, there was no anticipated cost for expert panel Delphi study participants. There were minimum mailing costs and established electricity to run the existing computer and software downloaded on the computer. No additional expenses were expected.

Evaluation Plan

The purpose of this DNP capstone project was to develop a clinical practice guideline for tele mental health to offer evidence-based recommendations for telehealth providers should services be expanded within the organization. No current tele mental health guideline is available to guide mental health providers. Ample evidence in the literature indicated telehealth guideline recommendations continue to be revised. Expert opinion and additional evidence were obtained utilizing the Delphi method. This author designed a quality improvement project to guide mental health providers and implement risk-reduction interventions for providers should services be expanded in the future to include tele mental health services. Three objectives fulfilled this purpose with each of them describing evidence-based measures and the method of analysis used. These objectives evaluated this quality improvement project and determined a method for analysis upon completion.

Objective One

Objective one was to obtain baseline information on tele mental health guideline use for providers experienced in use of telehealth interventions and patient care. Two approaches helped obtain this information. A thorough analysis of current telehealth guidelines was completed. A Delphi survey was used to query subject matter experts about their familiarity and expert opinions regarding telehealth guidelines. This information included the baseline use of providers with tele mental health experience. Clinical outcomes helped with understanding current guidelines that have been established and their significance. Tools that gathered this data were informatics in tele

mental health and Delphi survey rounds. Descriptive statistics were used to analyze current state information applied in creating the clinical practice guideline.

Objective Two

The second objective of the capstone was to evaluate the most current telehealth guideline evidence available and its applicability to the mental health population. High quality evidence including systemic reviews and meta-analysis regarding the use of tele health were included in the literature review. The rapid critical appraisal checklist offered by MeInyk and Fineout-Overholt (2015) was the method used for analyzing study applicability, level of significance, validity, and effect size. Subject matter experts from various disciplines who utilized tele health interventions in providing care were surveyed about the applicability of current telehealth guidelines and their recommendations were sought. The author compared the literature for telehealth guidelines to the mental health population at Ivinson Memorial Hospital including patient and provider input and perspectives. A synthesis of the evidence within the organization and current literature relevant to telehealth guidelines were the outcome of objective two.

Objective Three

Objective three of this capstone was developing a tele mental health clinical practice guideline for providers at Ivinson Memorial Hospital. Tools used to meet this objective were responses from the Delphi survey as well as a review of evidence-based literature obtained through an extensive search on the subject. Development of a preliminary guideline was the outcome for objective three. Information from the Delphi survey rounds built consensus toward guideline completion. This objective was met through analyses of survey responses using descriptive statistics.

Data analysis was completed to organize the judgments and insights provided by the Delphi participants. Determining consensus in the Delphi study was subject to interpretation. Consensus on the TMH guidelines was determined when a certain percentage of the answers fell within a prescribed range with plans to reach consensus with the second round. With the Delphi process, data analysis involved both qualitative and quantitative data. Qualitative data with use of open-ended questions to solicit expert subjects' opinions were collected in the first round. Major statistics used in Delphi studies are measures of central tendency using means, median, mode, and level of dispersion using standard deviations and inter-quartile ranges (Miller, 2006).

Risks, Barriers, and Benefits

There were no risks to patients as the information collected did not involve contact with patients. Past and existing patients did not benefit directly from this quality improvement project because there is no direct intervention. Barriers included resistance from participants although verbal consent was obtained prior to sending the survey. Benefits were for future mental health patients, staff, and leadership in having an established TMH guideline for reference should expansion be feasible.

Timeline

The timeline included the proposal defense on November 29, 2016. Upon approval of the proposal in December 2016, approval by the Institutional Review Board was obtained (see Appendix C) along with the hospital's Statement of Mutual Agreement (see Appendix D). Phase one of the Delphi Study then began and results of the first round were used to build the second-round questions. From December 2016 through February 2017, evidence review continued including existing services, Delphi study

results, and collective analysis of the data. Phase two of the Delphi study began in February 2017 with the development of the clinical practice guideline and presentation to key stakeholders. Consensus was obtained with the second round of the survey (see Appendix E). Data collected provided conclusive results on recommendations for future TMH guidelines. The final defense was scheduled for March 2017 with completed copies submitted April 2017.

Summary

Establishment of a clinical practice TMH guideline with consideration of expanding mental health services is foundational for quality of care. Assessment of the hospital's existing mental health services, current processes, structure, and needs was instrumental while incorporating best evidence and outcome measurement procedures to help the hospital expand mental health services. Quality and consistency when applying telehealth services are essential. Telehealth technologies can transform healthcare delivery by improving access to quality care by removing traditional barriers such as distance, mobility, and time constraints. Telehealth is a mode of delivering health care utilizing information and communication technologies to enable diagnosis, consultation, treatment, and care management of patients by healthcare providers. A lack of primary care providers and transportation continues to be a significant barrier to accessing health care in medically underserved rural and urban areas; telehealth opportunities could help reach rural underserved populations. The use of information and telecommunication technologies to deliver heath care has the potential to reduce costs, improve quality, change conditions of practice, and improve access to health care. This capstone project with the use of the Delphi method aimed to provide direction from expert opinion and

evidence-based literature to develop a clinical practice guideline that would help future mental health clients, clinicians, and leadership involved in TMH services.

CHAPTER IV

RESULTS AND OUTCOMES

Results from Delphi Study

Obtaining expert consensus from mental health professionals regarding telehealth guidelines was the focus of the Delphi survey. Information obtained based on clinician experience was evidence that assisted in the development of the telehealth clinical practice guideline. Two rounds of Delphi surveys were conducted with participation from telehealth clinicians. The first Delphi survey consisted of 13 questions. The second Delphi questionnaire consisted of seven questions based upon the results obtained from the first round. Both surveys were completed with an electronic no-signature consent form with applicable disclosures regarding intent of the project. Answers to both Delphi surveys are provided in a summary section along with the Delphi questionnaires from both rounds.

Six mental health clinicians participated in rounds one and two of the Delphi survey. One of the experts was a psychiatrist, one was a psychiatric mental health nurse practitioner, one was a family nurse practitioner, one was a clinical nurse specialist, one was a telehealth technician, and the remaining participant was a registered nurse TMH program coordinator. One of the participants had completed medical school, three had completed a Master of Nursing program, and one had a bachelor's degree. All the participants had been involved directly or indirectly with telehealth procedures and

received extensive training in order to participate in telehealth care. All six of the participants currently used telehealth in their current practices. Three of the participants lived in Wyoming, one lived in Arizona, one lived in Washington, and one lived in Colorado.

This capstone project sought to answer the following research question:

Q1 For mental health providers of an inpatient behavioral health unit at a non for profit community hospital in a rural area of a western state (*P*), How would development of tele mental health guidelines promote integration of a tele mental health program for psychiatry services (*I*) compared to in person mental health services (*C*) affect expansion of mental health services with use of telehealth guidelines(*O*) following initiation of tele psychiatry services?

The first objective of this evidence-based quality improvement project was to obtain baseline data for the health system on TMH guidelines. The second objective was to evaluate the most current evidence available and the applicability of this guideline to the mental health population. Objective three was to develop a clinical practice guideline and evaluate how this could be implemented upon expansion of mental health services with outpatient clinic development in the future.

Objective One Outcomes

The first objective was met through three processes: data from the organization, information supplied by Ivinson Memorial Hospital and the Behavioral Health Unit, and the author's survey of experts on the subject matter. It was discovered a TMH clinical practice guideline would benefit mental health services should expansion of an outpatient clinic with telehealth services be implemented in the future. Valuable information obtained from gathering facility organizational information and extensive review of literature on current telehealth guidelines included agreement on major themes essential

to effective clinical practice guidelines on telehealth. From survey responses, guidelines should include equipment review and technology training, general telehealth operation system review, skills assessment checklist to ensure TMH provider knowledge and ability to operate telehealth equipment, safety protocols and emergency procedures, telehealth documentation, contact information for technical support, and online training modules with quality improvement goals for sustaining telehealth programs. Additional information that might be included for the clinical practice guideline was an algorithm for emergency situations, cost breakdown, and procedures for downloading technology updates. Information on benefits to patients and providers as well as exclusion criteria might be considered when selecting appropriate referrals to TMH services.

Like other health networks, the population of mental health clients needing outpatient services and number of yearly referrals to outside agencies must be investigated to determine appropriateness of an adjoining mental health clinic and direct benefits to the facility. To complete objective one, the author reviewed the responses to the Delphi questions to confirm assessment and needs of current telehealth practices. This review included documentation and appropriate criteria for practicing telehealth as well as follow up with telehealth professionals by e-mail and phone to clarify responses to the survey. Feedback was also provided to the participants and updates provided when asked based on responses. The participants were patient, cooperative, and offered valuable information for addition to the guideline.

It was essential to review the facility where current mental health services were offered. With review of the facility and existing services, mission, and strategic planning, there was more clarity into how an expansion of mental health services would

benefit from a TMH clinical practice guideline. The chosen facility for this capstone project was Ivinson Memorial Hospital (IMH) in Laramie, WY. The original hospital was constructed in 1917 with a subsequent hospital built in 1973. The author's grandfather, who owned and operated Spiegelberg Lumber & Building Company, built the original hospital. Ivinson Memorial Hospital is a 100-bed hospital that recently merged with University of Colorado Health. Hospital services include medical, surgical, intensive care, dialysis, behavioral health, oncology, obstetrics, pediatrics, and extended care units. Specialty services including cardiology, pulmonology, and dermatology are offered through associated outpatient clinics connected to the hospital.

Objective Two Outcomes

Objective two was met by evaluating the most current telehealth guideline evidence available and its applicability to the mental health population. A synthesis of the evidence within the organization and current literature relevant to telehealth guidelines was the outcome of objective two. The clinical practice guideline was linked to the purpose statement: For mental health providers of an inpatient behavioral health unit at a not-for-profit community hospital in a rural area of a Western state, how would development of TMH guidelines promote integration and expansion of a TMH program for psychiatry services compared to current in person provider mental health services and provider availability? The development of a clinical practice guideline offers clear expectations from telehealth clinicians while promoting integration of evidence-based research with inclusion of essential information. Tele mental health services offered will be comparative to in-person provider services and expand provider availability with future expansion of mental health services

Objective Three Outcomes

Objective three was met by developing a TMH clinical practice guideline for providers at Ivinson Memorial Hospital. Tools used to meet this objective were responses from the Delphi surveys as well as a review of evidence-based literature obtained through an extensive search of the subject. The TMH clinical practice guideline is provided in Appendix F and will be updated according to technology and policy changes and with direction of the Behavioral Health unit manager as the outpatient unit with telehealth services expands. No clinical guideline has been previously established pertaining to TMH at the facility. Assessment of current processes at Ivinson Memorial Hospital was completed to determine need for expansion of services. Material was gathered from variety of resources including empirical literature and non-empirical references. A TMH clinical practice guideline was established with inclusion of critical components necessary for reference for telehealth clinicians and operations. The guideline will continue to be revised based on legislation governing telehealth services and provider requirements as well as organizational updates for safety protocols and emergency situations.

Current Processes

Organization Mission, Values, and Goals

The declared mission statement for Ivinson Memorial Hospital is “Dedicated partners providing integrated and innovative healthcare” (p. 1). The vision is “Exceptional Care” (p. 1). To accomplish the vision, the associated values to which they are committed include respecting the dignity and worth of every individual, fostering a healing environment, engaging the talents and expertise of our team, demonstrating

accountability, living a culture of safety, embracing excellence, and dedicated to organizational and personal learning (Ivinson Memorial Hospital, 2016).

Formal and Informal Leadership

The formal leadership for the organization pertinent to this capstone project included Douglas Faus, President and CEO; Sharon Gern, Chief Nursing/CNO; Holly Zajic, Chief Operating Officer; Garrett Bean, Chief Quality and Strategy Officer; Andrea Lewis, Director of Patient Access and Patient Financial Services; and Mark Holder, Director, Behavioral Health Services (Ivinson Memorial Hospital, 2016). Ivinson Memorial Hospital (2016) also has a board of directors elected by vote including community members. Informal leadership throughout the hospital consists of educational assistants within each unit assisting with unit development and education and quality and case management experts.

There are multiple committees within the organization. The IT steering committee is composed of leadership and compliance. Equally important to this capstone project was communicating with IT personnel as they would integral in locating appropriate telehealth equipment should mental health services expand in the future. The IT committee determines what projects are a priority within the hospital. The policy improvement committee reviews and updates policy and procedures. Clinical practice council promotes evidence-based practices. The environment of care committee monitors joint commission measures and helps keep the facility safe. The revenue cycle committee includes leaders of revenue, admitting, billing, and compliance and determines best strategies for billing. The finance committee includes senior leadership and board members whose purpose is to maintain stability with finances of the hospital. The

compliance board is composed of board members and the compliance team. Quality board meetings as well as an access committee ensure the right people are getting access to computers and networks. There is also a medical records committee and a medical staff committee. Medical executive committees are chaired by Dr. Byers and Dr. Ulrich. Medical staff meetings, sections of surgery meetings, and credentialing committees monitor professional staff and maintain credentialing of providers. Figure 1 illustrates the basic organizational chart for Ivinson Memorial Hospital.

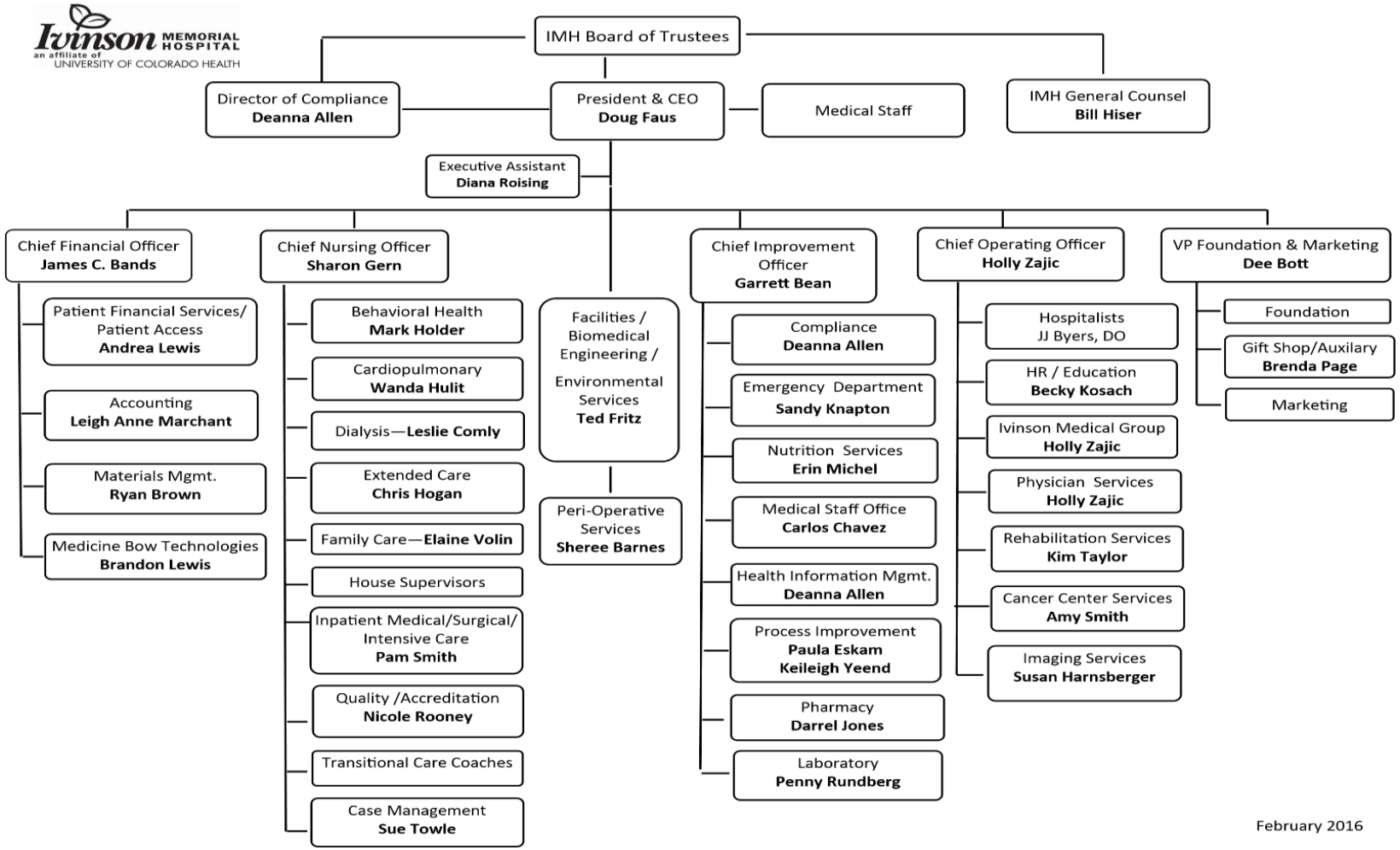

Figure 1. Basic organizational chart.

Score Card, Evaluative Metrics/ Process Improvement

Ivinson Memorial Hospital (2016) uses Lean Healthcare for an evaluative metric. Lean reports and executive summaries include metrics that can lead to focused improvement efforts concentrating on specific aspects of an organization's business health. Continuous improvement can be implemented from periodic review of the metrics within the organization. The senior team collects score card data. Each manager has a score card on different topics, i.e. patient safety, looking for instances of how many falls they had on a unit. Red and green report cards help managers focus on what might need to be improved within a specific department. Managers are required to complete daily reports on specific topics. The selection of desirable metrics is balanced to prevent improvement of one aspect while sacrificing others. This balanced approach can be applied at many levels within the facility. Together, all the metrics represent a view of the organization's balanced scorecard for Lean Healthcare. Specific metrics identified can be cascaded down to individual departments. Staff reviews as well as personal performance plans for individual departments can be created. Balanced scorecard metrics can help an organization ensure continuous improvement (Perkins, 2007).

Resource Allocation

Individual department managers create unit budgets. They must defend their budgets to senior leadership who collects, analyzes, and reports this data. Senior leadership has access and uses these data to drive processes within the organization. Budget adjustments can be requested with re-evaluation by individual managers so funding will be available when needed for specific department needs. Within the Behavioral Health Unit, the nursing director discusses unit needs with staff and providers,

creates a budget presentation, and must defend the budget proposal. Expansion of mental health services to include an outpatient clinic where TMH services could be provided in the future would require joint efforts at determining feasibility and sustainability of an outpatient clinic.

Ivinson Memorial Hospital (2016) consists of 455 employees who comprise the workforce within the organization. Each department has a manager who oversees the duties specific to each employee, thereby ensuring quality work is completed that meets the needs of patients and the facility. Senior leadership collaborates on organizational goals, measures successes and failures, and makes recommendations to unit managers on needed adjustments based on score cards. Strategies for improvement are determined by senior leadership and communicated via unit managers, in-services, email, and individual notifications. Within the Behavioral Health Unit, the treatment team reviews all individual patients and meets with patients and families. Medication initiation and adjustments are made, individual and group therapies offered, and acute changes and/or improvements are closely observed prior to discharge with referral to community outpatient services. Some behavioral health patients present on an emergency detention. Hearings are conducted on the unit with transfer to Wyoming State Hospital in Evanston, Wyoming when appropriate for long-term care. Some patients are transferred to residential treatment programs for substance abuse and adolescents can be transferred to adolescent residential treatment programs with consent of parent or guardian.

The Behavioral Health Unit is a 10-bed inpatient psychiatric unit. There are eight adult beds and two adolescent beds, which are separated from the adult population. Patients admitted first enter through the emergency department for initial workup and

evaluation, lab work, radiology completed as ordered. Acceptance must come from the on-call psychiatrist or psychiatric nurse practitioner with orders called to the unit for admission. Patients are escorted to the unit with initial intake completed by a treatment team including a medication provider, nurse, psychiatric technician, and psychologist or therapist. The average length of stay is three to five days; medication management, individual and group psychotherapy, psychological testing, and collaboration are offered on appropriate referral to outpatient services. Patients are admitted on a voluntary basis as well as those who have been admitted under emergency detention due to being a threat to themselves or others. The combined efforts of treatment team members offer a well-rounded comprehensive approach to behavioral health diagnosis and treatment. Addition of an outpatient mental health clinic adjoining the hospital would offer continuity of care.

Organization's Success and Challenges

Ivinson Memorial Hospital (2016) has been recognized for exceptional service in many areas. Most recently, IMH was recognized for *Focus on Improving the Patient Experience* as follows: honored by AVATAR International for Best Overall Performer in 2013--awarded to top facilities in Avatar's national database with the highest overall combined score for Inpatient, Outpatient, Emergency Department, and Ambulatory Surgery; and Hospital Consumer Assessment of Healthcare Providers and Systems Best Performer--Medium Sized Hospitals in Care Transitions measures. Ivinson Memorial Hospital was recognized by Mountain-Pacific Quality Health as the recipient of a 2016 Zero Healthcare Associated Infection Award for zero infections in two of three categories: catheter-associated urinary tract infections and central line-associated bloodstream infection. Ivinson Memorial Hospital was also recognized by the Healthcare

Information and Management Systems Analytics as achieving Stage 6 on the EMR. The Women's Choice Award selected IMH as one of America's Best Hospitals for Emergency Care in 2016. Also, the electronic medical record adoption model was used to evaluate the progress and impact of electronic medical record systems for hospitals. Stage 7 is the goal with 1,593 U.S. hospitals having achieved Stage 6 as of April 2016 (Ivinson Memorial Hospital, 2016).

Ivinson Memorial Hospital has full accreditation by The Joint Commission (2016). Ivinson Memorial Hospital (2016) received the Studer Group Excellence in Patient Care Award in 2014. Each individual department has received accreditations specific for their area of specialty as listed on the hospital website. Challenges within the organization are brought to the attention of senior leadership. A recent challenge was completing the budget for the upcoming year. Individual managers completed and defended their proposals with review and acceptance from leadership and the board of directors.

Ivinson Memorial Hospital (2016) has adopted Plane tree philosophy, which promotes that illness can be a transformational experience for patients, families, and caregivers. Plane tree is composed of 10 components: (a) human interaction; (b) family, friends, and social support; (c) information and education, (d) nutritional and nurturing aspects of food; (e) architectural and interior design; (f) arts and entertainment; (g) spirituality; (h) human touch; (i) complementary touch; and (j) healthy communities. The hospital has renovated individual patient rooms, waiting rooms, and also recently completed a remodel of the exterior building including attractive landscaping, offering a holistic approach to meeting a patient's needs of body, mind, and spirit. High quality

care is fundamental to the plane tree patient-centered care approach. Friends and loved ones are encouraged to be included and considered instrumental in the healing process for IMH patients. The physical environment has been enhanced, giving opportunity for individuals to heal and make appropriate choices for their health in an empowering atmosphere.

Ivinson Memorial Hospital (2016) has established a positive future for health care of individuals and populations in a planned approach. Leadership has provided positive direction for managers, employees, and the community so high quality care is maintained. Successful collaboration with University of Colorado Health has offered a strategy for successful collaboration by expanding services and providing a meaningful sense of shared practice relationships. The organization provides exceptional services, diagnoses, and treats a wide range of health problems and focuses on health promotion, disease prevention, and health education for individuals as well as the community. Strengths included the plane tree approach with supportive staff and environment conducive for healing. Weaknesses included continued need for recruitment of specialty services so patients can be evaluated and treated without having to travel out of town or out of state to obtain these work ups. Today's healthcare delivery systems are complex. Creating an environment with constituent member associations and developing an effective multipronged approach to health care is increasingly demanding. It is crucial for the organization to work toward high-quality, cost-effective care led by effective leadership and the combined efforts of staff. Full responsibility of success of the organization, as learned through the leadership course and readings, includes the relationship maintained between all members so all voices are heard and respected within

the organization for success. Review of the organization's mission, values, and current processes was essential to determine how this capstone project aligned with facility strategic planning and future goals of the organization.

Clinical Practice Guideline

The Stetler (2001) model offered five phases that assisted with the development of a clinical practice guideline (see Appendix F). The first step involved consideration of both internal and external evidence including expert consensus and literature review. The second step involved a critique of the internal and external evidence with rating its quality. The third step looked at organizing and collation of the evidence with step four producing the development of the clinical practice guideline. The first section of the guideline offers an introduction to the purpose of the clinical practice guideline with application to the clinical setting. The next section provides a summary of the guideline and its usefulness in practice. There is also a section dedicated to the summary of critical points in the guideline's principles and usefulness in telehealth interventions. Analyzing the organization and leadership is necessary to determine needs and applicability to the quality improvement project. Organizational leadership can be assessed by studying key elements within the system that were completed by this author. Developing individuals who can effectively manage and lead change within an interdisciplinary team requires blending of change, communication, and developing strategies for change. A strong foundation in leadership within an organization inspires individuals working within the team to apply high standards of quality and evidence-based practice into care. When these components are encouraged by leadership, individual and population health outcomes are improved. Examination of leadership models and culture within an

organization gives one an opportunity to understand how all the components within the organization shape health care. Exploration of the vision, mission, leadership strategies, and processes allows for interpretation of the dynamic interplay amongst all those involved in care. In response to expert panelist comments, information was furnished on telehealth interventions and a summary of the literature and expert findings.

Key Facilitators for Project Objectives

Several factors were instrumental in facilitating completion of this project's objectives. Primary support came from the leadership at the Behavioral Health Unit located in Laramie, Wyoming. With dedication to quality improvement and good patient outcomes, this support contributed to allowing a clinical practice guideline to be developed. The guideline might one day assist clients receiving TMH care. Expert panelists from the Delphi survey were also key players; their participation, clinical experience, and knowledge allowed the author to obtain expert opinions on TMH guidelines. The literature review allowed for collection, distribution, and evaluation of data from the two Delphi rounds in a timely manner, thus contributing to completion of the guideline.

Leadership and guidance from the capstone committee chair was equally instrumental. Strong leadership provided guidance and empowered others in their efforts to obtain goals. The committee chair helped encourage the completion of this project and development of this telehealth clinical guideline. The other committee members offered their expertise, support, and further facilitated completion of this DNP capstone. It was essential to gain collateral recommendations from all committee members to have a well-rounded project with various perspectives including institution and facility experts.

Barriers to the Project

Gaining consensus from the rounds of the Delph survey involved sending electronic surveys and awaiting responses from all participants. Survey Monkey® was tried with the second round of questions; however, the responses were not submitted appropriately and a second round two had to be sent without use of Survey Monkey. Response rates with return of rounds one and two were somewhat of a barrier as multiple requests had to be sent with reminders. Additional barriers included tracking down key facilitators in the information technology, human resource, and leadership departments who could provide information about current equipment and processes needed for future expansion of mental health services.

CHAPTER V

RECOMMENDATIONS AND IMPLICATIONS

An advanced practice nurse's academic preparation helps him/her learn how to apply research concepts to clinical practice. Knowledge development spurs integration of research into practice. This capstone project was completed to incorporate evidence-based knowledge into clinical practice to improve TMH services. The capstone project evaluated the evidence on TMH interventions for telehealth clinicians and assessed the Behavioral Health Unit's existing mental health program. A clinical practice guideline was developed for use should service expand to include telehealth. The clinical practice guideline incorporated best evidence and outcome measurement procedures to help telehealth clinicians maintain mental health services with good quality and consistency in program delivery. The first phase involved the evaluation of empirical and expert consensus evidence with assessment of the unit's existing mental health services. The second phase included the development of a clinical practice guideline. This capstone project met the American Association of Colleges of Nursing's (AACN; 2015) vision of the DNP clinician in providing evidence-based care.

Recommendations

Through analysis of round two of the Delphi survey wherein consensus was gained, all the experts felt appropriate training was essential for quality telehealth engagement. This could include online training modules, review of telehealth operational

systems, documentation training, patient safety, and emergency protocol training. It was also agreed suicidal patients should be excluded from telehealth appointments and referred for face-to-face evaluation. For facilities not currently engaged in offering TMH services, most clinical settings would benefit from expansion of services to include telehealth. The experts agreed they would support ongoing TMH services and evidence-based care promoting telehealth interventions. Inclusion and exclusion criteria, risks, benefits, limitations, and alternatives helped form the basis of a quality TMH guideline. Facility and technical support contact numbers as well as emergency contacts should be added to the guideline.

Appraisal of the empirical evidence on TMH interventions indicated the need for more studies involving several key elements. First, randomized controlled trials that compared the efficacy of telehealth interventions compared to face-to-face interventions would help researchers. Second, there was limited information on TMH guidelines and critical components necessary to best assist clinicians performing telehealth interventions; thus, more quality studies are needed to assess this finding. This is vital to the field as it was suggested by some participants that TMH interventions were not appropriate for some patient populations or patient situations. Third, there was conflicting evidence that TMH services were comparable to face-to-face interventions. If TMH services were comparable to in-person mental health services, they could provide an evidence-based alternative for those patients wishing to engage in mental health services should the services otherwise be unavailable. Appraisal of the existing Behavioral Health Unit's services at the facility used in this capstone project indicated the need for adjoining mental health outpatient services. Further, it is recommended the

facility consider implementing the guideline developed in this capstone project should mental health services expand. This recommendation would allow for baseline consistency in delivery of the program across various clinicians who might deliver services via telehealth. Utilization of the outcome measurement strategies would help ensure appropriate ongoing sustainability of the telehealth program based upon documented patient outcomes. Within the spirit of quality improvement, it is recommended the facility's leadership embrace and encourage the use and continued evaluation of this TMH clinical practice guideline.

Implications

Implications from completion of this clinical practice guideline are far reaching. This guideline established a foundation for telehealth clinicians offering mental health services at Ivinson Memorial Hospital should expansion take place. Tele mental health services could help bridge the gap between patient and provider in rural locations. The clinical guideline would serve as an evidence-based reference from which telehealth clinicians could access necessary information for initiating and sustaining telehealth services. The guideline could be revised according to future telehealth expansions and telehealth laws that govern practitioners. This author completed the capstone project so the guideline could be used in the clinic, thereby allowing for knowledge to be shared amongst telehealth clinicians. Competencies outlined by the AACN (2006) reflected the need for research and practice to complement each other and make room for both practice-based evidence and translational research. The implications following implementation of this guideline would continue to ensure measures are taken to improve the quality of telehealth services. The AACN requires DNP-prepared graduates

complete a project that addresses complex clinical issues and uses evidence to improve process, practice, or outcomes.

Through translation of evidence, innovation of practice, and quality improvement initiatives, DNP graduates are prepared to share new knowledge that improves clinical outcomes. In alignment with AACN (2006) requirements, five criteria were utilized to evaluate if this DNP project contributed to the generation of new knowledge and quality improvement. Waldrop, Caruso, Fuchs, and Hypes (2014) established five criteria a capstone project must meet so it will be "easy as pie" to determine if it meets AACN requirements. The five criteria are organized by the acronym EC as PIE (easy as pie). The clinical guideline capstone project met these criteria in the following manner:

- E--Enhances health and practice outcomes. The capstone project was patient-centered and intended to improve an existing TMH program to enhance patient and health outcomes through the development of a TMH clinical practice guideline. It was hoped the guideline would improve the delivery and quality of the existing mental health program should services expand to include telehealth services. The project also improved practice outcomes by describing best practices based upon expert consensus, patient preferences, and empirical evidence.
- C--Culmination of learned knowledge and extensive inquiry. A culmination of knowledge enabled expert opinions on the topic of TMH interventions to use that knowledge to promote change through the establishment of a TMH clinical practice guideline.
- P--Partnerships. The author of this capstone project formed partnerships with telehealth professionals and collaborated with leaders of Ivinson

Memorial Hospital and clinicians from various telehealth backgrounds to gain increased knowledge toward guideline development. Collaboration between mental health professionals allowed for the incorporation of multiple sources of evidence that resulted in the development of a TMH guideline.

- I--Implement evidence into clinical practice. The author was able to apply and translate evidence, resulting in implementation of that knowledge for use in the clinical setting. The author of this capstone project performed an extensive systematic evaluation of telehealth evidence and applied that to improve mental health services should they expand. This project was necessary to help Ivinson Memorial Hospital ensure the delivery of a consistent TMH program with good patient outcomes and ongoing evaluation.
- E--Evaluate outcomes. The author of this capstone project evaluated an existing mental health program and incorporated evidence (empiric, expert consensus, and patient outcomes) into the development of a quality TMH clinical practice guideline. Through evaluation of current health care practice and policy, recommendations were made for a TMH guideline.

Ongoing Monitoring and Evaluation

Ongoing modifications to the TMH clinical practice guideline will be essential. Identifying any necessary refinements and monitoring patient outcomes with use of telehealth services would include outcome monitoring tools. Tele mental health program development would require careful analysis of how sessions are conducted and how

ongoing improvements could assist clinicians and providers. Pre -and post-implementation evaluation surveys will be provided to telehealth clients and clinicians for 6 and 12 month evaluations of telehealth services being implemented to obtain critical information needed for evaluation of telehealth services and to determine what improvements might be made to strengthen telehealth services in the future (see Appendix G). This information will be utilized in updating the clinical practice guideline

Application of Capstone Project

Applying the concepts learned from this clinical guideline to TMH services would promote quality telehealth services for the Behavioral Health Unit outpatient program. Many topics critical to telehealth operation success were incorporated into the guideline following extensive research, expert opinion inquiry, and observation gained while personally working telehealth at the Veteran's Administration facility. Through gained knowledge and feedback from telehealth participants over the years, the importance of quality guidelines has been determined. While new knowledge would require that updates be made to the clinical practice guideline, a foundation has been established. Outpatient services adjoining the current inpatient Behavioral Health Unit are currently being discussed by leadership with strategic planning in progress. Upon expansion of mental health services, telehealth options might enable increased provider availability and access to care might be improved at sites otherwise unable to access mental health services.

Application to Other Settings

The clinical practice guideline developed in this capstone project is applicable to other TMH practice settings. As the literature demonstrated, TMH interventions benefit patients throughout various cultures and regions of the world. Telehealth interventions offer mental health services to underserved areas, bridging the gap between patients and mental health providers who otherwise might have inaccessible mental health services. The author of the capstone project plans to use this TMH guideline in her career as a psychiatric nurse practitioner regardless of her work location. Furthermore, the capstone process reinforced the academic knowledge gained through the DNP program: leadership, finance, theory, evidence-based practice, informatics, and population health.

Application to Leadership Goals

The DNP program prepares advanced practice nurses to be strong leaders. The DNP program was specifically pursued to improve leadership skills with the goal of aiding facility operation and quality improvement. Expanding from a patient-focused view to a broader perspective, it was imperative to look toward systems changes and organizational improvements. This capstone project helped identify a specific population that could benefit from a system change with expansion of TMH services benefitting rural areas. There was an identified need to help providers manage the availability of mental health services and provider access. The author's personal leadership goals were strengthened during DNP course completion including ability to translate research into practice. Spending more time evaluating patient outcomes and working collaboratively with mental health and interdisciplinary professionals emphasized the need for this project. The integrative process of infusing research into

practice was the primary goal of this guideline development. Critical to the mental health setting, assuming a leadership role helps in demonstrating this process of knowledge generation and utilization. This capstone project allowed the author to meet many personal and professional goals. Equipped with strong leadership skills, DNP-prepared nurses have the skills to improve clinical practice, health outcomes, and health policy. This project launched many larger leadership goals, recognizing that outpatient mental health service expansion with an option of telehealth services will require strong individual and organization-specific leadership.

Summary

This DNP capstone project provided an invaluable opportunity to integrate clinical skills, knowledge and theory, and disseminate these findings. Completing the project allowed for professional application of DNP preparation and coursework obtained throughout the program. The DNP capstone provided a foundation for this author to continue leadership in quality improvement at Ivinson Memorial Hospital with the development of a clinical practice guideline. Emphasizing quality care of patients, the DNP graduate is equipped to use a broad understanding of practice content to make improvements in health care. The project involved the translation of research into clinical practice, evaluation of mental health outcomes, and completion of a quality improvement initiative. With collaboration of interdisciplinary mental health care professionals, new knowledge was gained and shared. A large-scale project was envisioned with a dedication toward a quality improvement project. For individuals living in rural, isolated, or remote regions, TMH services could be viewed as a solution to overcoming the dilemma of mental health coverage with increased access to care.

The quality of tele-psychiatric care delivered could be improved by implementing an evidence-based clinical guideline. Ongoing efforts aimed at standardizing tele-psychiatric practice would promote its implementation. Providing mental health services via remote access allows for improved access to care. It is my personal goal to continue work beyond this capstone to improve telehealth care and continue efforts toward both local and national improvements. This capstone project helped to further an understanding for the need for a systems approach for practice change and the mental health population-focused problems contributing to a need for expanded services. A thorough quality improvement initiative being presented to the facility offers increased established governance to telehealth services, which will help improve patient and population outcomes. Thank you for the opportunity to share this project.

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APPENDIX A

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH

Informed Consent – No Signature Document

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH

UNIVERSITY OF NORTHERN COLORADO

Project Title: EXPLORATION OF TELEMENTAL HEALTH PROGRAM INTEGRATION WITH APPLICATION INTO PSYCHIATRY SERVICES AT IVINSON MEMORIAL HOSPITAL BEHAVIORAL HEALTH UNIT

Researchers: Beth J. Romsa, MSN, APRN, PMHNP-BC (DNP Student);
Kathleen Dunemn, PhD, APRN, CNM, School of Nursing
e-mail: Kathleen.Dunemn@unco.edu

Phase One – Expert Consensus via Delphi Study

The purpose of the capstone project is to evaluate current tele mental health guidelines with consideration of expansion of mental health services and provider access, including current processes, structures, procedures and policies/guidelines and develop a clinical practice guideline that incorporates best evidence and outcome measurement procedures to assist with establishment of tele mental health services for outpatient and inpatient mental health services. The capstone project will consist of two phases. Phase One involves the evaluation of evidence (expert consensus and empirical evidence) of established tele mental health program guidelines and assessment of current mental health services offered with investigation of expansion of services. Phase Two will include review of best evidence based tele mental health guidelines and development of a clinical based tele mental health guideline based on recommendations from expert consensus and empirical evidence. The clinical guideline will assist clinicians and mental health staff in best practice protocols to be considered should mental health service expansion be implemented.

The Delphi method is a structured communication method that utilizes questionnaires to survey experts in a subject matter in subsequent rounds. The information from the literature review on tele mental health services and current guidelines will be used to develop the first round of questions. The responses from the initial round will be anonymously shared with participants in the second round. The participants will gain knowledge in this matter. All participants will remain anonymous, which will help minimize impact of reservation of response and the reluctance of input. The Delphi method has been successfully used in health care including nursing and can be a useful tool where there is a lack of empirical evidence. All Delphi surveys will be sent and returned electronically. It is anticipated that each survey will take 15-20 minutes for completion.

The purpose of this email is to invite your participation in a virtual panelist and participant. Participation is voluntary and all responses will be kept anonymous. All data

collected will be kept on a password protected thumb drive that is accessible only by the nurse practitioner and her research advisor. There are no foreseeable risks to participants, as this is a process improvement project looking at expansion of existing mental health services, based upon examining the evidence and developing a clinical practice guideline for tele mental health services while maintaining consistency in quality mental health services. Future telehealth clinicians may benefit from having a clinical guideline to follow.

Participation is voluntary and you may decide to stop or withdraw at any time. This decision will be respected and will not result in loss of benefits to which you are otherwise entitled. If you have any questions, please contact one of the undersigned.

Having read the above and having had an opportunity to ask questions, please access and complete the attached document. “Phase One: Delphi Study Round One Questions.” Please return the completed survey to: roms7219@bears.unco.edu.

By completing and returning the questionnaire, you will give us permission for your participation. You may keep this form for future reference. If you have any concerns about your selection or treatment as a research participant, please contact Sherry May, IRB Administrator, Office of Sponsored Programs, Kepner Hall, University of Northern Colorado, Greeley, CO 80639. Telephone: 970-351-1910.

Kathleen Dunemn, PhD, APRN, CNM
Kathleen.Dunemn@unco.edu
970-351-3081

Beth J. Romsa, MSN, APRN, PMHNP
roms7219@bears.unco.edu
307-761-2175

This informed consent information will be emailed and accompany each round of the Delphi study

APPENDIX B

DELPHI STUDY ROUND ONE QUESTIONS

Phase One: Delphi Study Round One Questions

In regards to establishment of Tele Mental Health Guidelines for Outpatient and Inpatient Mental Health Expansion of Services for Mental Health Patients:

1. What is your job/career title/role?
2. What is your highest level of education (List the actual name of the degree if applicable)
3. Have you received training in Tele Health Procedures? Yes_____ No_____

If you answered yes, please tell us about the Tele Health Procedural Guidelines. Expand upon the setting, training and specifics of the guidelines related to tele mental health that you follow.

4. What additional guidelines would be helpful to you in delivering tele mental health care to patients?
5. What education and skill do you believe clinicians should possess before offering tele mental health to patients in the clinical setting?
6. How has tele mental health benefitted your patients?
7. Do you believe tele mental health should be offered to all mental health patients?
8. Do you believe that expansion of mental health services via tele health would offer more opportunities for mental health care in most clinical settings?
9. Are there any exclusion criteria you believe should be applicable to tele mental health care?
10. What patient diagnosis and symptoms do you believe can be appropriately treated via tele mental health
11. What content do you think tele mental health guidelines should include?
12. What outcome measurement parameter or tools do you believe should be incorporated in a tele mental health clinic in order to assess effectiveness of interventions offered telehealth?
13. Do you have any other suggestions, ideas, or concerns that you would feel necessary to be included in tele health guidelines in order to provide best quality of care?

APPENDIX C

INSTITUTIONAL REVIEW BOARD APPROVAL

UNIVERSITY OF
NORTHERN COLORADO

Institutional Review Board

DATE:	February 1, 2017
TO:	Beth J. Romsa, MSN, APRN, PMHNP
FROM:	University of Northern Colorado (UNCO) IRB
PROJECT TITLE:	[999426-1] EXPLORATION OF TELEMENTAL HEALTH PROGRAM INTEGRATION WITH APPLICATION INTO PSYCHIATRY SERVICES AT IVINSON MEMORIAL HOSPITAL BEHAVIORAL HEALTH UNIT
SUBMISSION TYPE:	New Project
ACTION:	APPROVAL/VERIFICATION OF EXEMPT STATUS
DECISION DATE:	February 1, 2017
EXPIRATION DATE:	February 1, 2021

Thank you for your submission of New Project materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

Thank you for a thorough and clear IRB application. Your materials and protocols are verified/ approved exempt and you may begin your research.

Best wishes with your study.

Sincerely,

Dr. Megan Stellino, UNC IRB Co-Research Advisor

We will retain a copy of this correspondence within our records for a duration of 4 years. If you have any questions, please contact Sherry May at 970-351-1910 or Sherry.May@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX D

STATEMENT OF MUTUAL AGREEMENT

Statement of Mutual Agreement
University of Northern Colorado
Doctorate of Nursing Practice Capstone Project
Beth J. Romsa
October 10, 2016

The purpose of the "Statement of Mutual Agreement" is to describe the shared view between Ivinson Memorial Hospital and Beth J. Romsa, DNP Candidate from University of Northern Colorado, concerning her proposed Capstone project.

Proposed Project Title: Exploration of Tele mental health program integration with application into psychiatry services for optimization of mental health services and provider access at Ivinson Memorial Hospital Behavioral Health Unit.

Brief Description of the Proposed Project:

The purpose of the capstone project is to evaluate the evidence of tele mental health guidelines for psychiatry services; assess the hospital's existing mental health services and provider access, including current processes, structure and needs for expansion of services; and develop a clinical guideline that incorporate best evidence and outcome measurement procedures to help the hospital expand mental health services with best quality and consistency in guideline development an expansion of services. The capstone project will consist of two phases. **Phase one** involves investigation of current tele mental health guidelines from empirical review and panel expert query and consensus, making a determination of critical key components of guideline establishment and development. **Phase two** includes review of the guidelines and development of a tele mental health clinical practice guideline to guide expansion of inpatient and outpatient services based on the best evidence available.

The Capstone project is not research oriented. Rather, it is a quality improvement initiative based upon existing research evidence and program guideline development. The project emphasizes a multidisciplinary approach and collaboration among mental health professionals and hospital leadership.

Goal of Capstone Project:

The goal of the Capstone Project is the development of a tele mental health clinical practice guideline that blends expert opinion, theory, and empirical literature evidence. The clinical tele mental health guideline will assist clinicians in consideration of expansion of psychiatry services in order to more broadly deliver mental health services with consistency and quality in a rural setting, assisting with narrowing the gap of provider availability and psychiatry services.

Proposed On-site Activities:

1. The Delphi method will be utilized to query a panel of experts. Potential panel members are mental health professionals directly involved with the hospital's mental health services and selected by their relevant expertise in mental health delivery. Participation in the expert panel will be voluntary and anonymous.
2. A retrospective review of existing medical record data will be conducted to assess outcomes of current mental health referrals. This information is needed to serve as

a foundation from which to develop the clinical practice tele mental health guideline.

3. The capstone author will interact with various clinicians, staff, and leadership as part of the program expert consensus process, and examination of the existing mental health services, and guidelines development process.

Confidentiality of Patient Records and Facility: The data collected for this study will be anonymous. Only the author and her research advisor will collate and review the data. The data collected will be kept on a password protected thumb drive that is accessible only by the author and her research advisor. No patient identifier information is collected; thus none of the collected data is considered confidential or sensitive information. If the results of this study are ever reported, the results will be reported in aggregate. Ivinson Memorial Hospital Behavioral Health Unit is referred to as the inpatient mental health unit in the student's work.

The agency/community member is Peggy Harris. The member agrees to participate in the review and approval of the Capstone project. Ms. Harris will attend the defense of the Capstone proposal and final Capstone project defense through remote access.

The DNP Capstone project will include a final report, an abstract, potential publication or oral presentation of the report. The author welcomes any comments or suggestions from the Hospital, but reserves the right to publish findings and analysis according to professional standards and principles of academic freedom. For any work of a scholarly nature, the Author agrees to follow the hospital preferences in how it is to be named (or not) in the work.

_____

Signature of DNP Student- Beth J. Romsa Date

_____

Signature of Agency Member – Peggy Harris Date

_____

Signature of DNP Capstone Research Advisor– Kathleen Dunemn Date

_____

Signature of DNP Capstone Co-Research Advisor – Lory Clukey Date

APPENDIX E

DELPHI STUDY ROUND TWO QUESTIONS

Introduction to Second Round of the Delphi Survey

Thank you for your participation as a subject matter expert in the Delphi Survey. I appreciate all of the responses from the first survey. Your opinion as a subject matter expert in developing a telehealth guideline is valued for this round of the Delphi process. We had responses from a tele mental health program coordinator, a family nurse practitioner, a psychiatric mental health nurse practitioner, a tele mental health technician, a psychiatrist, a clinical nurse specialist. All of the experts in the subject matter have been directly involved in telehealth operations and have received specific telehealth training.

The goal of this round of questions is to build consensus toward the formation of a Clinical Practice Guideline for tele mental health. This guideline proposed would be of reference for clinicians performing telehealth and serve as a reference for those engaging with clients via telehealth. Through shared information and expert opinion, there will be improved process and evaluation methods to continue building telehealth procedures for the benefit of clients and clinicians.

As a Subject Matter Expert, please respond to the following questions and **thank you again** for your participation in this Delphi Survey.

1. All of respondents felt that appropriate training is essential for quality telehealth engagement with clients including online training modules, review of telehealth operational systems, proper documentation training, patient safety training and emergency protocols. Do you agree with these requirements for training?
Yes
No
Other (please specify)

2. Participants from round 1 felt that suicidal patients should be excluded from telehealth appointments and referred for face to face evaluation. Is this a reasonable recommendation for high risk patients?
Yes
No
Other (please specify)

3. Many responded that expansion of mental health services via telehealth for facilities not currently engaged with telehealth would offer more opportunities for mental health in most clinical settings. Has tele mental health expansion in your facility benefitted clients and clinicians?
Yes
No
Other (please specify)

4. Would you support ongoing of tele mental health services and evidence based care promoting quality clinical interventions between provider and client?
Yes
No
Other (please specify)

5. A clinical practice guideline for tele mental health would include appropriate training, safety protocols, inclusion/exclusion criteria, risks/benefits/ limitations and alternatives to telehealth and appropriate documentation required. Do you agree this forms that basis of a tele mental health guideline? If no, what needs to be included?
Yes
No
Other (please specify)

6. For planning purposes if support is needed for telehealth connection difficulties or technical support do you feel that including facility contact numbers in the clinical guideline would offer benefit i.e. Information technology support, emergency contact numbers and telehealth coordinator contact information?
Yes
No
Other (please specify)

7. Are there other comments you would like to make about developing a guideline on this topic?
   Yes
   No
   Other (please specify)

Summary of Round One Delphi Survey

Did experts have training in telehealth? Yes 6/6 CONSENSUS

Do you believe that expansion of mental health services via tele health would offer more opportunities for mental health care in most clinical settings? Yes 6/6 CONSENSUS

Exclusion criteria: Actively suicidal, Actively psychotic, Extreme HOH, Some intellectual disabilities

Guidelines should include: Equipment review & Technology training, Telehealth laws, Emergency procedures including urgent/emergent events and how to respond to them. Patient satisfaction and effectiveness, Safety protocols, General telehealth operational systems, Skills assessment to test tele mental health provider knowledge and ability to operate telehealth equipment, Equipment troubleshooting, contact information for technical support, Backup plan for inability to connect for completion of appointment. Guidelines for enrolling in telehealth access. State licensing limitations. Liability waiver for participation. Documentation in every progress note associated with a telehealth visit acknowledging limits in privacy, names and locations of patient and provider. Clinical support staff contact information.

Training consisted of: Online training modules, telehealth operational systems review, patient safety protocol review, documentation necessities, state and federal prescribing laws.

Benefits to Patients: Less travel, improved access to care, provider availability, for patients connecting to appointments via tablets from home, they are in a more comfortable setting without inconvenience of leaving home, allowing quicker access to healthcare.

Benefits to Providers/Health care facilities: Increased provider availability, space availability for onsite providers

Outcome Measurements: Chart Review by QI staff member, Patient Surveys, Comparable outcome measurement tools as used for face to face

Additional recommendations: Flow chart/algorithm for emergency situations, Cost breakdown, Technology updates. Informing mental health leadership about any policy

changes in tele mental health delivery including federal and state law. Educating and assisting mental health leadership about tele mental health programs and specific processes to get them approved and keep them sustained. Providing quality improvement via report generation and education to tele mental health providers and leadership for areas needing improvement, education regarding Ryan Haight Act federal law.

THANK YOU AGAIN FOR YOUR PARTICIPATION!

APPENDIX F

CLINICAL PRACTICE TELE MENTAL HEALTH GUIDELINE

CLINICAL PRACTICE TELE MENTAL HEALTH GUIDELINE

Introduction

The following tele mental health clinical practice guideline was developed based on empirical evidence, expert consensus and review of literature. The goal of the guideline is to assist telehealth clinicians with incorporating evidence-based practice and provide a reference for telehealth operations should mental health services expand. Guidelines promote quality by describing best practices based upon empirical evidence and broad consensus. Guidelines translate best evidence into best practice and are designed to support clinical decision-making processes (Rosenfeld & Shiffman, 2009). The clinical guidelines, technological standards and legal-ethical guidance proposed help ensure that the quality of care delivered by tele psychiatry is similar to face to face mental health intervention. It is essential that the elements that characterize patient-provider relationships such as communication, degree of empathy, professionalism, trust and accurate assessment, diagnosis, confidentiality and privacy are maintained with telehealth interventions.

INITIATING TELEHEALTH START UP

All providers and healthcare professionals currently or potentially involved with telehealth including physicians, nurse practitioners, nurses, telehealth clinical technicians and tele presenters will be the target audience for completion of online Tele Mental Health Operations online training. The program will be accessible through the educational site for Ivinson Memorial Hospital via link Telehealth Online Training.

Upon completion of the educational program, learners will be able to define selection and exclusion criteria for tele mental health clients; identify the types of

treatments appropriate for tele mental health services; outline techniques specific to tele mental health and optimize technical/equipment options for tele mental health treatments. Participants will log into the educational link, search for the course and register for it, complete course content and complete the program evaluation. A certificate may be printed upon completion.

The program will include content on the background of tele mental health and offer a basic process for performing a telehealth appointment. The learner will be given information on the benefits of tele mental health and be given a review of the clinical aspects of tele mental health services which will be provided. The participant will gain a basic understanding of equipment needed for tele mental health and room set-up. There will also be information provided about logistical issues related to informed consent and necessary credentialing.

Telehealth clinicians must complete electronic medical record training in orientation prior to initiating set up for telehealth services. All checklists must be completed and renewed as directed by Information Technology training staff at Ivinson Memorial Hospital. If services are to be provided remotely, a VPN account in the Intranet must be established with assistance from Information Technology.

APPROVALS

Once an employee receives supervisor approval to provide telehealth services, they must submit online trainings for “Telework for Employees” and Ivinson Memorial Privacy and Information Security Awareness and Rules of Behavior. Also, the employee must work with information technology to ensure access is available. Training certificates should be forwarded to Mark Holder, Behavioral Health Unit manager. The completed training

certificates will be submitted to Human Resources for approval. The Tele Mental Health Program will be directed by the Behavioral Health Unit Manager and managed by the facility Telehealth Coordinator. When requests for telehealth services are received, they are to be coordinated with the Behavioral Health Unit Manager as part of outpatient mental health services. Workload credit for providing resources such as clinical, administrative and support staff will be identified by the facility leadership and human resources department. A certificate of completion will be provided for clinicians completing telehealth training and added to educational profile.

EQUIPMENT

Laptop

Monitors

Docking Station

Video camera

Mouse

Keyboard

EQUIPMENT REVIEW & TECHNOLOGY TRAINING

A reservation system and telehealth consult must be initiated. Outpatient appointments will be made through the outpatient Behavioral Health staff with scheduling based on availability. Telehealth consults may be initiated upon discharge from the inpatient psychiatric hospitalization or through the reservation number which will be established through Behavior Health. A medical file will be opened for each patient treated by tele psychiatry.

A consent for telehealth services and standard agreement will be completed. Conditions governing fee-for-service will be established will billing completed by billing and payment service department at Ivinson Memorial Hospital. Equipment loan for those clinicians providing telehealth services off location will require a property loan form to be completed and submitted to the Information Technology Department for issuance of technological equipment. Electronic medical record training will be completed with checklist documentation provided to the Behavioral Health Unit director.

TECHNOLOGICAL STANDARDS

Compliance with the following technological standards will be required to ensure effective tele mental health services. The tele consultation room at the primary site must have soundproof walls and the equipment must include an omnidirectional microphone, a monitor, remote control and telephone. Information Technology will provide clearance for all equipment issued and maintained for telehealth operations. They will continue providing services at all times in the event of difficulties with equipment with on call services available for after hour technology difficulties.

LICENSURE AUTHORITY

The licensing authority will grant a clinician permission to practice. Health care providers are governed by laws which help protect the public from incompetent or impaired practitioners. A certificate of licensure from the state where the provider is working is necessary, and granted by the states licensing board. Telehealth enables providers to connect with patients in other states. The originating state, where the patient is located, is considered the place of service, thus the provider must adhere to state regulations and laws of that state. Additional Resources:

State Telehealth Laws and Medicaid Program Policies

Interstate Medical Licensure Compact

Reference: Telehealth Resource Centers retrieved from:

http://www.telehealthresourcecenter.org/toolbox-module/cross-state-licensure

GENERAL TELEHEALTH OPERATIONAL SYSTEMS

Equivalent to face to face interactions, tele mental health clinical practice provides care across distances. Prior to engagement in telehealth services, telehealth interventions must be clearly understood by patient and provider. Establishing clinicians in rural locations to respond to the mental health population's need for psychiatric services improves access to care. Individual psychotherapy, psychoeducation and pharmacological interventions of medication management are amongst services provided. The telehealth operational system will be managed by the Behavioral Health Unit manager with assistance from information technology and telehealth clinicians and providers. All equipment is to be provided by the information technology department with unit manager allocating disperement.

SKILLS ASSESSMENT TESTING PROVIDER KNOWLEDGE

Telehealth clinicians will have successfully completed online training Tele Mmental Health Operations prior to initiating any telehealth services. Telehealth clinicians will have successfully completed Tele Mental Health Suicide Prevention and Emergency Care online training prior to initiating any tele health services. All required skills checklists will be completed prior to telehealth clinician services being provided and will be updated according to necessary skills testing as directed by the facility and/or by information technology with required upgrades to operational systems and/or programing.

EQUIPMENT TROUBLESHOOTING

Medicine Bow Technologies operates the information technology aspects at Ivinson Memorial Hospital.

Contact number for Medicine Bow Technology (MBT):

Meditech Informatics Team

Available Tuesdays/Wednesdays 8:00am-4:30pm

3rd Floor

(307) 742-2142 ext 5522

255 N. 30th St., Laramie, WY 82072

InformaticsTeam@IvinsonHospital.org

TELEHEALTH DOCUMENTATION/ELECTRONIC MEDICAL RECORD

All telehealth documentation will be completed in the electronic medical record, currently Meditech, or current electronic medical record for Ivinson Memorial Hospital. Active record will be maintained for all telehealth appointments. The telehealth documentation will be available via medical records for patients and providers seeking to review documents.

LEGAL CONSIDERATIONS/TELEHEALTH LAWS

A legal framework is essential to telehealth operations. All patients must consent to telehealth services prior to initiating telehealth services. Informed consent of the patient must be obtained in writing. The documents will be protected with patient privacy information and kept scanned into the medical record. Clinical and professional standards will be maintained with all telehealth documents. All individuals and institutions involved in preparing and taking part in telehealth consultation including

telehealth service providers, equipment manufacturers and distributors must have individual insurance coverage. Telehealth providers must be credentialed and have ensured coverage for telehealth services.

ETHICAL CONSIDERATIONS

Access to psychiatric services in rural areas can be enhanced through telehealth services. Transforming the therapeutic relationship from face-to-face consultation to telehealth services requires consideration of all ethical aspects of patient care. Providing quality services with improved geographic coverage involves ongoing improvements to the existing telehealth program with input from patients and providers. To promote the advantages of telehealth services and increase productivity, communication must be maintained to enhance the therapeutic relationship between provider and patient population. Measures to ensure privacy and confidentiality will be ensured with attention to interactions, empathy, accurate assessment, diagnosis, prescription and treatments delivered via tele mental health. Technological standards and legal restrictions proposed within this guideline will help ensure that quality of care delivered is comparable to face to face mental health services.

SAFETY PROTOCOLS AND EMERGENCY PROCEDURES

Crisis/Contact/Staff assistance/Suicide prevention:

If a mental health patient is in mental health or medical crisis during a telehealth visit, the outpatient clinic staff will assist with care of the patient until Ivinson Memorial Hospital emergency personnel are available.

The patient's address, phone numbers, local emergency contact number will be readily available to telehealth staff. This information will be reviewed in electronic medical record prior to initiating appointment.

The telehealth clinician will initiate in house emergency personnel by dialing 5555 from their station or 911 off-station office at any time during the tele mental health session when the clinician determines that there is a need for local Emergency Medical Services (EMS) for mental health or medical crisis. All telehealth providers involved in telehealth will receive training describing protocol for tele mental health applications in emergency situations. Emergency protocols for tele mental health encounters via distance modalities will be correctly followed for emergency telehealth care to assist clinicians in emergency situations

Pre-screening at time of scheduling and prior to appointments for appropriateness for telehealth services will be completed. If there are factors contributing to unsafe outcomes, the patient will be referred to in person evaluation or emergency department care.

For medical emergencies which occur during telehealth sessions, telehealth clinician will call Ext. 5555 connecting to Ivinson Memorial Hospital operator for assistance with emergency personnel intervention. Emergency staff with intervene with patient evaluation and transportation to emergency department. If the telehealth worker is off station and the client is in outpatient clinic, the provider will call telehealth technician to enter room and assist with situation including calling 5555 for medical emergency notification to code team. The telehealth technician may also activate the nearest panic button while activating Ivinson Memorial Hospital code system if patients medical or

mental health status or behavior warrants intervention. The telehealth technician will initiate CPR if warranted. The technician will stay with the patient until relieved by appropriate emergency response team at Ivinson Memorial Hospital. Transportation to emergency department, if needed, will be performed by hospital staff with necessary accompaniment to emergency room. In order to give report of the patient's current clinical status, the telehealth clinician will keep the technology connected and/ be available by phone if the technology is turned off or fails on the patient's side. The Behavioral Health Director will assure that all disciplines involved in performing telehealth treatment are aware and adhere to emergency protocols with proper documentation following any emergency situation.

EXCLUSION CRITERIA

Telehealth clients who meet exclusion criteria will be referred to in person providers for evaluation. Those that indicate that in person consultation would be the preferred mode of care will be seen by Behavioral health staff for proper referral. Those patients that refuse this care mode will meet exclusion criteria. Those that are at immediate risk of suicide or dangerousness including violent patients meet exclusion criteria.

Those who require close monitoring may be considered for exclusion. Patients that could be aggravated using technology could be seen face to face. Those that have hearing, visual or cognitive deficits limiting ability to communicate with this technology may be referred to in person providers. Those patients verbalizing suicidal or homicidal ideation will be referred to in person consultation or emergency department evaluation. Those patients demonstrating aggressive behaviors or emotional outbursts will be excluded from engagement with telehealth services until stabilized. These patients will be

seen for further evaluation prior to being rescheduled to determine immediate risk and proper disposition.

CLINICAL RESOURCES/CONTACTS

Additional telehealth resources will be available and continually updated for tele clinicians for support to best maintain telehealth program: .

National Telehealth Policy Resource Center http://telehealthpolicy.us/state-laws-and-reimbursement-policies Provides a listing of current and pending state-by-state telehealth laws, reimbursement, and Medicaid program policies

Tele mental Health Institute http://telehealth.org/ Addresses regulations and policies related to tele mental health, such as states mandating private insurance payer reimbursement for telehealth; provides training through courses and webinars

Center for Connected Health Policy www.cchpca.org Provides policy support for the use of telehealth technologies through research, planning and technical assistance

Health IT http://www.HealthIT.gov/mobiledevices Information for providers and professionals, patients and families, and policy researchers and implementers on the use of health information technology. Tips on how to keep client's health information secure when using mobile devices

HHS Office for Civil Rights http://www.hhs.gov/ocr/privacy/index.html A resource for understanding HIPAA statutes and rules

Centers for Medicare & Medicaid Services (CMS): http://www.cms.gov/ Information on e-health and records, fee schedules, billing, and reimbursement of tele mental health services

Center for Telehealth & e-Health Law (CTeL) http://ctel.org/ Licensure requirements for physicians and nurses; rulings on credentialing and privileging; information on Medicare and Medicaid reimbursement; and policies on private insurance payment

Medicaid Telemedicine: http://medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Telemedicine.html A source of Medicaid telemedicine definitions; guidelines for providers and facilities; and information on reimbursement.

National Conference of State Legislature (NCSL) http://www.ncsl.org/issues-research/health/state-coverage-for-telehealth-services.aspx A listing of whether Medicare or private insurance reimbursement is required for each state
Tele mental Health Ethical Codes for Counseling Associations the Association for Addiction Professionals (NAADAC) http://www.naadac.org/index.php

RYAN HAIGHT ACT

There are laws governing prescribing of controlled substances over the internet for providers which must be abided by. In October 2008, the Ryan Haight Online Pharmacy Consumer Protection Act was signed into law which amended the Controlled Substances Act (CSA) by defining activities which are legally permissible for physicians prescribing controlled substances over the internet. Responsible for the enforcement of the act is the Drug Enforcement Agency (DEA). Overseeing the distribution of controlled substances over the internet is the DEA with the Ryan Haight Act of 2008 placed under their jurisdiction. A practitioner may be violation of the act if at least one in person evaluation is not completed before prescribing medication. This act helps regulate anyone dispensing, distributing or delivering medication by means of the internet.

Providers must comply with the Ryan Haight Act which specifies whether an initial face-to face visit is required by law. Any intended prescribing of controlled substances to patients being treated by tele mental health must follow the rules of the Ryan Haight Act. Safe and conservative practice is essential for providers which prescribe over the internet. Registration must be obtained by the telehealth practitioner from the US Attorney General. State laws can determine how telehealth can be used to prescribed. State medical and pharmacy board regulations may assist in the way in which telehealth can be utilized in filling prescriptions. An initial in person consultation establishing the relationship between patient and provider may be required and the Ryan Haight Act must be reviewed and maintained with prescribing. The National Telehealth Policy Resource Center's website is an additional reference.

Reference: Telehealth Resources Center retrieved from:

http://www.telehealthresourcecenter.org/toolbox-module/telehealth-and-prescribing

CONNECTION

The wireless connection's security will be maintained by use of software, settings and passwords. The information technology department will be assisting all telehealth clinicians with equipment set up and helping to avoid unsecure connections. Websites unintended for patient care are prohibited and avoiding unsecure connections will ensure that safety is maintained. When not in use, the wireless network will be shut down with password log in required for startup. If connection is lost during a telehealth session, there will be phone availability in the telehealth room in order that the provider may call patient to complete telehealth session. If connection prior to a scheduled telehealth appointment is unable to gain connection, the scheduled appointment may be rescheduled or the Behavior Health Clinic can determine if there are in person providers available to complete scheduled appointment with patient. Phone contact will be made between patient and provider if a scheduled visit is missed in order that any medication refills will be completed and/or mental health needs addressed and appointment rescheduled.

CHARTING

Active medical record will be maintained on all tele mental health patients. There will be associated progress notes completed for each visit with medication reconciliation documented and offered to client upon check out. The telehealth technician will provide return to clinic appointment upon completion of session. Active treatment/care plan to be completed with initial visit between provider and patient. All documentation to be completed within 24 hours of scheduled appointment.

OUTCOME MEASUREMENTS/QUALITY IMPROVEMENT

Successful telehealth programs focus on all aspects of care including operational, economic, legal, and ethical factors fostering successful programs. Providing improved continuity in care with outpatient services involves providing a framework which is feasible and beneficial to patient and providers. Outcome measurements can assess if an intervention is helping to meet patients in reaching their treatment goals. Measurement tools can assess progress and help understand improvements that may be needed based on responses of clients and clinicians. A pre-and post evaluation survey were developed to be distributed to telehealth participants at six and twelve month intervals in order to gather participant feedback in order to improve and sustain the tele mental health program.

MEDITECH ORIENTATION OBJECTIVES

This orientation is not meant to be a comprehensive training but rather an introduction to the Meditech computer system.

You will learn to:

1. Log on to the POM (Provider Order Management), choose a patient and order procedures in any of the up to 24 categories available to you.
2. Log on to the EMR (Enterprise Medical Record) and maneuver through a patient's record to find information both in the patients present visit and previous visits.
3. Log on to the PCS (Patient Care Services) system, assign patients, pick interventions and chart on these interventions. ***(Review what is on the Status Board – Confidential & Patient Communication Tab)***
4. Access the eMAR (Medication Administration Record), scan a patient's arm band and scan meds to administer them.

Applying these concepts and skills will enable you to:

1. Order a variety of Physician/Provider orders including Lab, Radiology, Nursing Dietary, etc.
2. Enter you patient's height, weight and allergies**.(Shown on header)**
3. Find a patient's lab or radiology results along with numerous reports and notes.
4. Track a patient's V.S. and pain scale for both a present visit and past visits.
5. Enter the Standard of Care interventions, chart on a patient and then correct charting by both editing and undoing an entry. ***(Point out required & meaningful use queries that have to be addressed. i.e.: Language, smoking, immunizations, ambulating for VTE Prophylaxis, diet, etc.)***
6. Properly scan a patient and a medication to ensure the right patient is getting the right medication.***(Do immunizations [SHOW ALL FIELDS TO FILL IN] and insulin[SHOW SLIDING SCALE] as a group)***
7. Add an unscheduled medication ***(better to now place an order or have MD place order)*** and correct a scanned medication.
8. Review the EMR at the conclusion of the shift ***(Care Activity)*** to see that all charting and medications actually made it to the medical record.
9. Blood administration unit ***(Each student has 2 units – 1st is given normally, 2nd is with a reaction – report - needs to be printed for their orientation packet)***
10. Access the Medication Reconciliation tab and show the process of adding home meds or reviewing previously entered meds.

At the conclusion of your orientation you should have completed: ***(these used to be modules new staff had to complete but I don't think they do anymore)***

1. EMR scavenger hunt
2. PCA pump module
3. Developing a patient care plan and charting on outcomes. ***(Do in class if time and they are whizzes)***

THERE WILL BE A MEDITECH MANUAL

AVAILABLE FOR REFERENCE

Flow of Class

*Depends on those attending orientation. Clinic staff and ER staff will not need to go through the charting sections or scanning of medications. Everyone needs ordering and the EMR. All nurses will need to go through Blood transfusions. CNA's, Psych Tech's and ER Tech's come in to do the Blood unit even though they don't chart on it but they can go after the blood so that is why they are included.

1. TAR – charting and printing their transfusion record for their orientation packet.
2. POM – Ordering a variety of meds, rad, nursing, plus order sets **(stress that if it is an unusual med and it lives in an order set, the easiest way to get it right is to use the order set – ie: insulin or mixed iv's)**
3. EMR – Follow the side menu in the EMR to cover every tab. Have them find their orders they just put in.
4. **BREAK – all non-inpatient personnel can now leave**
5. PCS – Review the Status board – Assign patients and access on ***My List*** - point out ***Confidential and patient communication words.*** Add and allergy or review allergies.
6. PCS – Interventions – add the SOC for their unit and then begin charting **(I usually go through the admit charting to show required queries).** Show all meaningful use queries and stress the reason for filling these out. Show the ***Initial physical Assessment*** with the Pregnancy screening and the WNL – statements. After charting on a number of interventions in the document format have them document in the Document Spreadsheet and show adding a column for end of shift charting. Chart at least 3 occurrences of something so that you can go back in under ***History*** to ***Undo*** and ***Edit.***
7. **CNA's and Psych Tech's may now leave.**
8. PCS – Care Plans – if staff have been on the floor or have been in the system before review this. Otherwise, tell them they will get it on the floor as it is too much to remember.

PCS – Scanning meds – (see objectives – Med labels live in the orientation cabinet in education

Reference: Ivinson Memorial Hospital (2016). Retrieved from http://www.ivinson hospital.org/getpage.php?name=history&sub=About+Us

APPENDIX G

PRE- AND POST-IMPLEMENTATION EVALUATION SURVEYS

Pre-Implementation Survey

1. Date: _____
2. Age: _____
3. Patient status (circle one):

   Initial Telehealth Appointment (____) or Follow up Appointment (____)
4. Have you been seen via telehealth the past? Y N

   If so when: _____
   How would you describe previous telehealth sessions?
   _____
   _____
5. Telehealth services being provided:

   Psychotherapy _____

   Medication Management _____
6. Are there any barriers you perceive with telehealth services? Y N

   What are the barriers and how can we assist you in overcoming them?
   _____
7. What do you see as benefits to you in receiving telehealth services?
   _____
8. Were there any difficulties with scheduling your telehealth appointment? Y N

   How do you think scheduling could be improved?

   _____
9. Do you feel that telehealth services are comparable to in person provider

   services? Y N
10. What could be offered for the telehealth session to ensure your goals were met?

    _____

Post-Implementation Survey

1. Do you feel that your tele mental health sessions have met your goals? Y N
   a. If so, how: _____

2. Level of comfort with tele mental health sessions

   (1=not comfortable, 2=somewhat comfortable, 3=very comfortable)

   a. Telehealth scheduling 1 2 3
   b. Telehealth patient provider relationship 1 2 3
   c. Connection strength (volume and picture) 1 2 3
   d. Information provided to you during telehealth session 1 2 3
   e. Instruction regarding diagnosis, plan of treatment, shared goals 1 2 3
   f. Support staff availability 1 2 3

3. Did you find the telehealth appointment to be a good setting to learn about and discuss your mental health needs? Y N
   Comments:
   _____
   _____
   _____
   _____

4. Would you consider participating in future telehealth appointments in the future? Y N
   Comments:
   _____
   _____
   _____

5. Do you have recommendations for strengthening telehealth services at Ivinson Memorial Hospital? Y N
   Comments:
   _____
   _____
   _____